

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) ~~A~~An antireflective film comprising a coating film formed by curing a coating composition, the coating composition characterized by comprising: at least

~~(1)-titanium dioxide fine particles with eliminated or reduced photocatalytic activity, wherein the titanium dioxide fine particles are obtained by surface treating comprising titanium dioxide fine particles doped with cobalt capable of capturing free electrons and/or holes, with a zinc chelate compound capable of capturing free electrons and/or holes, and an organometallic zinc compound present on surfaces of the cobalt-doped titanium dioxide fine particles;~~

~~(2)-a binder component;~~

~~(3)-a dispersant; and~~

~~(4)-an organic solvent;~~

~~wherein the organometallic zinc compound is at least one compound selected from the group consisting of zinc acetylacetone, zinc benzoate, zinc acetate, and zinc 2-ethylhexylate.~~

2. (Currently Amended) ~~A~~An antireflective film comprising a coating film formed by curing a coating composition, the coating composition characterized by comprising: at least

~~(1)-titanium dioxide fine particles with eliminated or reduced photocatalytic activity, wherein the titanium dioxide fine particles are obtained by surface treating comprising titanium dioxide fine particles doped with cobalt, capable of capturing free electrons and/or holes, with a zinc chelate compound capable of capturing free electrons and/or holes, and an organometallic zinc compound present on surfaces of the~~

cobalt-doped titanium dioxide fine particles, and furthera coating the surface treated titanium dioxide fine particles withlayer formed on the organometallic zinc compound and comprising an anionic polar group-containing organic compound and/or organometal compound,;

(2)-a binder component;

(3)-a dispersant; and

(4)-an organic solvent;

wherein the organometallic zinc compound is at least one compound selected from the group consisting of zinc acetylacetone, zinc benzoate, zinc acetate, and zinc 2-ethylhexylate.

3. (Currently Amended) Aan antireflective film comprising a coating film formed by curing a coating composition, the coating composition characterized by comprising:
at least

(1)-titanium dioxide fine particles with eliminated or reduced photocatalytic activity, wherein the titanium dioxide fine particles are obtained by coating comprising titanium dioxide fine particles doped with cobalt capable of capturing free electrons and/or holes, with an inorganic compound capable of reducing or eliminating photocatalytic activity, and further surface treating the coated titanium dioxide fine particles with a zinc chelate compound capable of capturing free electrons and/or holes, a coating layer formed on surfaces of the cobalt-doped titanium dioxide fine particles and comprising an inorganic compound that reduces or eliminates photocatalytic activity, and an organometallic zinc compound present on the surface of the coating layer;

(2)-a binder component;

(3)-a dispersant; and

(4)-an organic solvent; and

wherein the organometallic zinc compound is at least one compound selected from the group consisting of zinc acetylacetone, zinc benzoate, zinc acetate, and zinc 2-ethylhexylate.

4. (Currently Amended) ~~An antireflective film comprising a coating film formed by curing a coating composition, the coating composition characterized by comprising:~~ at least

(1) ~~titanium dioxide fine particles with eliminated or reduced photocatalytic activity, wherein the titanium dioxide fine particles are obtained by coating comprising titanium dioxide fine particles doped with cobalt, a first coating layer formed on surfaces of the cobalt-doped titanium dioxide fine particles and comprising capable of capturing free electrons and/or holes, with an inorganic compound capable of reducing or eliminating that reduces or eliminates photocatalytic activity, further surface treating the coated titanium dioxide fine particles with a zinc chelate compound capable of capturing free electrons and/or holes, and further coating the surface treated titanium dioxide fine particles with and an organometallic zinc compound present on the surface of the first coating layer, and a second coating layer formed on the organometallic zinc compound and comprising an anionic polar group-containing organic compound and/or organometal compound;~~

(2) a binder component;

(3) a dispersant; and

(4) an organic solvent; and

wherein the zinc organometallic compound is at least one compound selected from the group consisting of zinc acetylacetone, zinc benzoate, zinc acetate, and zinc 2-ethylhexylate.

5. (Cancelled).

6. (Currently Amended) The ~~coating composition~~antireflective film according to claim 3, characterized in ~~that~~wherein the inorganic compound ~~is~~comprises fine particles of ~~one or~~ at least ~~two~~one metal ~~oxide~~oxide selected from the group consisting of alumina, silica, zinc oxide, zirconium oxide, tin oxide, antimony-doped tin oxide, and indium-doped tin oxide.

7. (Currently Amended) The ~~coating composition~~antireflective film according to claim 1, characterized in ~~that~~wherein the titanium dioxide fine particles ~~having~~with ~~eliminated~~ or reduced photocatalytic activity ~~has~~have a primary particle diameter of 0.01 to 0.1 μm .

8. (Currently Amended) The ~~coating composition~~antireflective film according to claim 2, characterized in ~~that~~wherein the anionic polar group-containing organic compound is an organic carboxylic acid.

9. (Currently Amended) The ~~coating composition~~antireflective film according to claim 2, characterized in ~~that~~wherein the anionic polar group-containing organometal compound is at least one of a silane coupling agent and/or a titanate coupling agent.

10. (Currently Amended) The ~~coating composition~~antireflective film according to claim 1, characterized in ~~that~~wherein the dispersant contains an anionic polar group.

11. (Currently Amended) The ~~coating composition~~antireflective film according to claim 1, characterized in ~~that~~wherein the binder component is ionizing radiation curable.

12. (Currently Amended) The ~~coating composition~~antireflective film according to claim 1, characterized in ~~that~~wherein the organic solvent is a ketone solvent.

13. (Currently Amended) The ~~coating composition~~antireflective film according to claim 1, characterized by ~~comprising~~ wherein the ~~coating composition~~ comprises 10 parts by weight of the titanium dioxide fine particles ~~having with~~ ~~eliminated or~~ reduced photocatalytic activity, 4 to 20 parts by weight of the binder component, and 2 to 4 parts by weight of the dispersant.

14. (Currently Amended) The ~~coating composition~~antireflective laminate according to claim 1, characterized by ~~comprising~~ wherein the ~~coating composition~~ comprises 1-hydroxy-cyclohexyl-phenyl-ketone and/or 2-methyl-1-[4-(methylthio)phenyl]-2-morpholinopropan-1-one as a photoinitiator.

15. (Currently Amended) The ~~coating composition~~antireflective laminate according to claim 1, characterized in that ~~wherein~~ the organic solvent is contained in an amount of 50 to 99.5 parts by weight based on 0.5 to 50 parts by weight of the total solid content of the coating composition.

16. (Currently Amended) A ~~coating film characterized by being produced by coating a coating composition~~An antireflective laminate according to claim 1 onto a surface of an object and curing the coating composition, wherein the coating film has a refractive index of 1.55 to 2.20 when the thickness of the film after curing is 0.05 to 10 μm , and wherein the ~~a~~ haze value of the coating film, as measured integrally with a base material according to JIS K 7361-1, ~~is not different from the~~ haze value of the base material ~~per se~~, ~~or~~ is different by not more than 1% from ~~the~~ a haze value of the base material ~~per se~~.

Claims 17-20. (Cancelled)

21. (Currently Amended) ~~An~~The antireflective film characterized by ~~comprising~~ according to claim 1, wherein the antireflective film comprises a laminate

of at least two or more light-transparent layers, wherein the at least two or more light-transparent layers are transparent to light and are different from each other in refractive index, and wherein at least one of the light-transparent layers is at the coating film according to claim 16.

22. (Currently Amended) An image display device comprising an antireflective film according to claim 21 covering a display surface.

23. (New) A method for producing an antireflective film, the method comprising:

 forming titanium dioxide fine particles with eliminated or reduced photocatalytic activity by doping titanium dioxide fine particles with cobalt, and surface-treating the cobalt-doped titanium dioxide fine particles with an organometallic zinc compound;

 preparing a coating composition comprising the titanium dioxide fine particles with eliminated or reduced photocatalytic activity, a binder component, a dispersant, and an organic solvent;

 applying the coating composition to a base material; and

 curing the coating composition on the base material;

 wherein the organometallic zinc compound is at least one compound selected from the group consisting of zinc acetylacetate, zinc benzoate, zinc acetate, and zinc 2-ethylhexylate.

24. (New) A method for producing an antireflective film, the method comprising:

 forming titanium dioxide fine particles with eliminated or reduced photocatalytic activity by doping titanium dioxide fine particles with cobalt, surface-treating the cobalt-doped titanium dioxide fine particles with an organometallic zinc compound, and coating the surface-treated titanium dioxide fine particles with an anionic polar group-containing organic compound and/or an organometal compound;

preparing a coating composition comprising the titanium dioxide fine particles with eliminated or reduced photocatalytic activity, a binder component, a dispersant, and an organic solvent;

applying the coating composition to a base material; and

curing the coating composition on the base material;

wherein the organometallic compound of zinc is at least one compound selected from the group consisting of zinc acetylacetone, zinc benzoate, zinc acetate, and zinc 2-ethylhexylate.

25. (New) A method for producing an antireflective film, the method comprising:

forming titanium dioxide fine particles with eliminated or reduced photocatalytic activity by doping titanium dioxide fine particles with cobalt, coating the cobalt-doped titanium dioxide fine particles with an inorganic compound that reduces or eliminates photocatalytic activity, and surface-treating the inorganic compound-coated titanium dioxide fine particles with an organometallic zinc compound;

preparing a coating composition comprising the titanium dioxide fine particles with eliminated or reduced photocatalytic activity, a binder component, a dispersant, and an organic solvent;

applying the coating composition to a base material; and

curing the coating composition on the base material;

wherein the organometallic compound of zinc is at least one compound selected from the group consisting of zinc acetylacetone, zinc benzoate, zinc acetate, and zinc 2-ethylhexylate.

26. (New) A method for producing an antireflective film, the method comprising:

forming titanium dioxide fine particles with eliminated or reduced photocatalytic activity by doping titanium dioxide fine particles with cobalt, coating the cobalt-doped titanium dioxide fine particles with an inorganic compound reducing

or eliminating photocatalytic activity, surface-treating the inorganic compound-coated titanium dioxide fine particles with an organometallic zinc compound, and coating the surface-treated titanium-dioxide fine particles with an anionic polar group-containing organic compound and/or organometal compound on the organometallic compound;

preparing a coating composition comprising the titanium dioxide fine particles with eliminated or reduced photocatalytic activity, a binder component, a dispersant, and an organic solvent;

applying the coating composition to a base material; and

curing the coating composition on the base material;

wherein the organometallic compound of zinc is at least one compound selected from the group consisting of zinc acetylacetone, zinc benzoate, zinc acetate, and zinc 2-ethylhexylate.